Amendments to the Claims:

Claims 1-13 (Cancelled)

14. (Previously amended) A wireless packet communication apparatus, comprising:

an input for receiving information indicative of frequency channel quality corresponding to correlation values associated with a plurality of probe frequencies which are within an available frequency bandwidth and on which a plurality of probe packets have respectively been received from another wireless packet communication apparatus via a wireless communication link;

a band quality determiner coupled to said input for using said frequency channel quality information to produce information indicative of frequency band quality associated with the correlation values respectively taken as fading parameter amplitude estimates; and

a band selector coupled to said band quality determiner and responsive to said frequency band quality information for selecting one of said frequency bands for use in wireless packet communications with said another wireless packet communication apparatus.

15. (Original) The apparatus of Claim 14, including a controller coupled to said band selector for providing for transmission to said another wireless packet communication apparatus a plurality of selection packets which each include information indicative of the selected frequency band.

16. (Original) The apparatus of Claim 15, wherein said controller is operable for providing a plurality of corresponding transmit frequencies on which the respective select packets are to be transmitted to said another wireless packet communication apparatus.

17. (Original) The apparatus of Claim 15, wherein said controller is operable for providing, for use in receiving said probe packets, information indicative of said probe frequencies.

18. (Previously amended) A wireless packet communication apparatus, comprising:

a controller for providing a plurality of probe packets and a corresponding plurality of probe frequencies which are within an available frequency bandwidth and on which the probe packets are to be transmitted via a wireless communication link to another wireless packet communication apparatus;

an output coupled to said probe controller for outputting said probe packets to the wireless communication link respectively on said probe frequencies; and

an input for receiving a selection packet which has been received from said another wireless packet communication apparatus via the wireless communication link and which includes information indicative of the selected frequency band in response to correlation values respectively associated with the probe packets transmitted on the respective probe frequencies taken to be fading parameter amplitude estimates.

19. (Original) The apparatus of Claim 18, including a mapper coupled to said input and responsive to said selected frequency band information for determining therefrom the selected frequency band.

20. (Original) The apparatus of Claim 18, wherein said input is for receiving a plurality of said selection packets and said controller is operable for providing information indicative of a plurality of frequencies on which the selection packets are to be respectively received.

21. (Original) The apparatus of Claim 18, wherein said plurality of probe frequencies are distributed across the available frequency bandwidth.

22. (Original) The apparatus of Claim 21, wherein said plurality of probe frequencies are distributed evenly across the available frequency bandwidth.

23. (Original) The apparatus of Claim 21, wherein said distribution of said probe frequencies across the available frequency bandwidth corresponds to a total number of probe packets in said plurality of probe packets.

24. (Previously amended) A method of performing wireless communication with a wireless communication transceiver, comprising:

for a first predetermined period of time, receiving predetermined information via a wireless communication link using a plurality of frequencies within an available frequency bandwidth;

obtaining correlation values respectively associated with packets transmitted on the plurality of frequencies indicative of frequency channel quality associated with the plurality of frequencies and taking the correlation values to be the fading parameter amplitude estimates;

using the frequency channel quality information to select from the available frequency bandwidth a frequency band;

for a second predetermined period of time, transmitting via the wireless communication link information indicative of the selected frequency band; and

upon expiration of the second predetermined period, communicating via the wireless communication link using the selected frequency band.

25. (Previously amended) The method of Claim 24, including defining said first and second predetermined periods of time during an initial handshake with a remote wireless communication transceiver.

26. (Previously amended) The method of Claim 24, wherein said communicating step is performed at a higher data rate than said transmitting step.

27. (Previously amended) A method of choosing a communication parameter for use in wireless communications, comprising:

identifying within an available frequency bandwidth a plurality of frequency bands which each includes a plurality of available frequency channels;

obtaining correlation values respectively associated with packets transmitted on said frequency channels and taking the correlation values to be the fading parameter amplitude estimates;

for each of said frequency bands, using the fading parameter information associated with the frequency channels thereof to produce band quality information indicative of frequency channel communication quality within the frequency band; and

based on the band quality information, selecting one of the frequency bands for use in wireless communications.

28. (Cancelled)

29. (Cancelled)

30. (Previously amended) The method of Claim 27, wherein said using step includes, for each of said frequency bands, summing squares of the fading parameter amplitude estimates associated with the frequency channels in the frequency band to produce a sum for the frequency band, and wherein said selecting step includes selecting the frequency band whose associated sum is the largest of said sums.

31. (Previously amended) The method of Claim 27, wherein said using step includes, for each of said frequency bands, selecting the smallest of the fading parameter amplitude estimates associated with the frequency channels within the frequency band, and wherein said first-mentioned selecting step includes selecting the frequency band whose smallest fading parameter amplitude estimate is the largest of said smallest fading parameter amplitude estimates.

32. (Previously amended) The method of Claim 27, wherein said using step includes, for each of said frequency bands, determining the smallest and largest of the fading parameter amplitude estimates associated with the frequency channels of the frequency band and, for each of said frequency bands, summing squares of the fading parameter amplitude estimates associated with the frequency channels of the frequency band to produce a sum for the frequency band, and identifying those frequency bands whose smallest and largest fading parameter amplitude estimates have a predetermined mutual relationship, and wherein said selecting step includes

selecting from said identified frequency bands the frequency band whose associated sum is the largest of said sums.

33. (Original) The method of Claim 32, wherein said identifying step includes identifying every frequency band wherein a ratio of the smallest fading parameter amplitude estimate thereof to the largest fading parameter amplitude estimate thereof exceeds a predetermined threshold value.

34. (Cancelled)

35. (Previously amended) The method of Claim 27, including selecting modulation and channel coding for use in communications based on the band quality information associated with the selected frequency band.

36. (Original) The method of Claim 35, wherein said modulation is one of QPSK, 16- QAM and 8-PSK, and wherein said channel coding has a coding rate that is one of ⅓, ½, ⅔, ¾, ⅘, ⅚ and 1.

37. (Currently amended) A wireless communication apparatus, comprising:

an input for receiving ~~information indicative of fading parameters~~ fading parameter information including fading parameter amplitude estimates respectively associated with a plurality of frequency channels within an available frequency bandwidth in a first mode having a first data rate, said available frequency bandwidth including a plurality of frequency bands which each include a plurality of said frequency channels;

a band quality determiner coupled to said input and operable with respect to each of said frequency bands to sum squares of the fading parameter amplitude estimates associated with the frequency channels in the frequency band to produce a sum for the frequency band ~~for using the fading parameter information associated with the frequency channels of said frequency band to~~

~~produce band quality information indicative of frequency channel communication quality within said frequency band~~; and

a selector coupled to said band quality determiner for selecting the frequency band whose associated sum is the largest of said sums ~~, based on the band quality information,~~ one of the frequency bands for use in wireless communications ~~in a second mode having a second data rate different from the first data rate~~.

38. (Cancelled)

39. (Currently amended) A wireless communication apparatus, comprising:

an input for receiving fading parameter information including fading parameter amplitude estimates respectively associated with a plurality of frequency channels within an available frequency bandwidth in a first mode having a first data rate, said available frequency bandwidth including a plurality of frequency bands which each include a plurality of said frequency channels ~~The apparatus of Claim 38~~, wherein said fading parameter amplitude estimates are correlation values respectively associated with packets transmitted on the respective frequency channels;

a band quality determiner coupled to said input and operable with respect to each of said frequency bands for using the fading parameter information associated with the frequency channels of said frequency band to produce band quality information indicative of frequency channel communication quality within said frequency band; and

a selector coupled to said band quality determiner for selecting, based on the band quality information, one of the frequency bands for use in wireless communications.

40. (Previously amended) The apparatus of Claim 37, including a mapper coupled to said selector for receiving the band quality information associated with the selected frequency band and mapping the received band quality information into modulation and channel coding.

41. (Original) The apparatus of Claim 40, wherein said modulation is one of QPSK, 16-QAM and 8-PSK, and wherein said channel coding has a coding rate that is one of 1/3 ½, 2/3, ¾, 1/5, 2/5 and 1.

42. (Cancelled)

43. (Currently amended) A wireless communication apparatus, comprising:

an input for receiving fading parameter information including fading parameter amplitude estimates respectively associated with a plurality of frequency channels within an available frequency bandwidth in a first mode having a first data rate, said available frequency bandwidth including a plurality of frequency bands which each include a plurality of said frequency channels;

a band quality determiner coupled to said input and operable with respect to each of said frequency bands ~~The apparatus of Claim 38, wherein said band quality determiner is operable, for each of said frequency bands,~~ to select the smallest of the fading parameter amplitude estimates associated with the frequency channels within the frequency band to produce band quality information indicative of frequency channel communication quality within said frequency band; and

a selector coupled to said band quality determiner, ~~and wherein said selector is~~ operable for selecting the frequency band whose smallest fading parameter amplitude estimate is the largest of said smallest fading parameter amplitude estimates, one of the frequency bands for use in wireless communications.

Claims 44-46 (Cancelled)